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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/756,490	01/08/2001	Michael T.K. Ling	1417Y P 407	4232

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EXAMINER

NOLAN, SANDRA M //

ART UNIT

PAPER NUMBER

1772

DATE MAILED: 02/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/756,490

Applicant(s)

LING ET AL.

Examiner

Sandra M. Nolan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-111 is/are pending in the application.
- 4a) Of the above claim(s) 6-10 and 17-111 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 11-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5+9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claims

1. Claims 1-111 are pending.

Pursuant to the election/restriction requirement, claims 1-5 and 11-16 are under consideration here.

Election/Restriction

2. Applicant's election of Group I, claims 1-18 in Paper No. 7 (the incomplete response dated 23 October 2003) is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

3. This application contains claims 19-111, drawn to inventions nonelected with traverse in Paper No. 7. A complete reply to any final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

4. It is noted that, in the response dated 06 February 2003 (Paper No. 10), applicants indicate that their response in Paper No. 7 was complete because it stated that claims 1-18 were elected. However, as was pointed out in the office action dated 26 December 2001, the requirement for election of species made In the 18 September 2002 office action (Paper No. 6) was not completely complied with because applicants failed to list, in Paper No. 7, all of the claims that read on the species elected in that paper. Rather than send out another

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notice of unresponsive amendment, the examiner acknowledges applicants' failure to list the claims that read on the elected species and hereby lists claims 1-5 and 11-16 as readable on the elected species for the following reasons:

(i) The styrene/hydrocarbon copolymer recited in claims 6-10 was not elected in Paper No. 7;

(ii) The type of additive to be used in the second layer, as set forth in claims 17 and 18, was not elected in Paper No. 7.

5. Accordingly, as the elections made in Paper No. 7 are understood by the examiner, claims 1-5 and 11-16 read on the species elected there. This action treats those claims.

Information Disclosure Statement

6. The information disclosure statements (IDS's) submitted on 22 June 2001 and 30 December 2002 (Paper Nos. 5 and 9) were considered by the examiner.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 2-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "wherein the polyamide is ..." in 1. There is insufficient antecedent basis for this limitation in the claim because the

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polyamide, which is used at concentrations of 0 to 40% (claim 1, line 7) need not be present in the tubing.

W/D Claim 3 recites the limitation "wherein the polyamide is ..." in line 1. There is insufficient antecedent basis for this limitation in the claim because the polyamide, which is used at concentrations of 0 to 40% (claim 1, line 7) need not be present in the tubing.

W/D Claim 4 is indefinite for reciting "s" in line 2. To what does "s" refer?

Please clarify the claims.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-4, 11, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Heilmann et al (US 5,928,744).

Heilmann teaches PVC-free multilayer tubes (title) that have an outer layer 2 of polypropylene blended with SEBS (col. 8, lines 63+) and a connecting layer 4 of SEBS with SEBS (col. 9, lines 4+). In Figure 1, the connecting layer 4 is disposed radially within the outer layer 2. SEBS and SEPS are defined, at col. 6, lines 24 and 26, to be styrene/ethylene/butylenes/styrene rubber and styrene/ethylene/propylene/-styrene rubber, respectively.

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The examiner deems "tube" to be synonymous with "tubing" and "rubber" to be synonymous with "elastomer".

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 1-5 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller (EPO 0564231 B1) in view of Heilmann and Ahmed et al (US 6,184,290).

Mueller teaches tubing (page 2, line 3) that has an outer layer containing polypropylene or an ethylene/propylene copolymer (page 5, claim 1) containing less than 6% ethylene (page 2, lines 52-3) and an intermediate layer containing blends of styrene/ethylene/butylenes/styrene copolymer (page 5, claim 2). The tubing is used as a replacement for PVC tubing (page 3, penultimate line).

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Figure 1 shows the outer layer **22** and the position of the intermediate layer **24** coaxially within it (as described at page 3, lines 13 and 22).

Mueller fails to teach (a) the use of polypropylene and ethylene/propylene copolymer in the outer layer and (b) the use of polyamides and low density polyethylene in its tubing.

Heilmann is discussed above. Note that the use of its blends of polypropylene and ethylene/propylene copolymers give improved surface finish to its tubes (col. 5, lines 32+).

Ahmed teaches the production of tubing (col. 16, line 34) from compositions containing SEBS, SEPS and styrene/ethylene/propylene (SEP) copolymers (col. 14, lines 53+), low density polyethylenes (LDPE's) and nylons (col. 16, lines 51-53 and 55-56). The compositions show enhanced thermal stability and processability (abstract).

The examiner deems a nylon to be a type of polyamide.

It is noted, as an aside, that the SEBS copolymers of Ahmed may be triblocks (col. 13, line 65).

The patents are analogous because they both deal with tubing that contains SEBS copolymers.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ one or more of the LDPE's and the nylons of Ahmed, along with Heilmann's blends of polypropylene and ethylene/propylene copolymers in the outer layers of the Mueller tubing in order

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to improve the surface finish as well as the thermal stability and processability of the Mueller tubing.

The motivation to employ Heilmann's blends of polypropylene and ethylene/propylene copolymers is found at col. 5, lines 32+ of Heilmann, where the surface finish of its tubes is discussed.

The motivation to employ the LDPE's and/or nylons of Ahmed in the tubing of Mueller is found in the Ahmed abstract, where the improvement of thermal stability and processability of its compositions is discussed.

It is deemed beneficial to make tubing from compositions whose outer layers have improved surface finish along with thermal stability and processability in order to make attractive tubing (per Heilmann) and to facilitate the processing of the tubing at elevated temperatures (per Ahmed).

In the absence of convincing objective evidence to the contrary, the use of ultra-low density polyethylene and fatty amide polyamides as the LDPE's and polyamides of Ahmed is deemed a matter of engineering choice, depending upon the properties desired in the final tubing.

Conclusion

Any inquiry concerning this communication should be directed to the Examiner, Sandra M. Nolan, whose telephone number is 703/308-9545. The Examiner can normally be reached on Monday through Thursday, from 6:30 am to 4:00 pm, Eastern Time.

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If attempts to reach the Examiner by telephone are unsuccessful, her supervisor, Harold Pyon, can be reached at 703/308-4251. The general fax number for the art unit is 703/305-5436. The fax number for after final communications is 703/872-9310. The receptionist answers 703/308-0661.



S. M. Nolan
Patent Examiner
Technology Center 1700

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